

## Patent Claims

1. Nucleic acid sequences coding for proteolytic enzymes in the form of specific proteases  
5 characterized by the fact that  
the nucleic acid sequences are derived from the coldness-adapted *fragilariopsis cylindrus* marine diatom and code for a calpain-7-protease according to SEQ ID No.1 or for a zinc metalloprotease according to SEQ ID No. 2 or for functional variants of both proteases or that they are formed as  
10 fragments with at least 8 nucleotides thereof.
2. The nucleic acid sequences in accordance with claim 1,  
characterized by the fact that  
the nucleic acid sequences are formed as DNA or RNA, preferably as  
15 double-stranded DNA.
3. The nucleic acids in accordance with claim 1 or 2,  
characterized by the fact that  
the nucleic acid sequences are contained in vectors, preferably in  
20 expression vectors.
4. The use of nucleic acid sequences in accordance with claim 3 for the  
expression or hyper-expression of the calpain-7-protease and/o zinc  
metalloprotease enzymes in host organisms.  
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5. Polypeptides corresponding to the nucleic acid sequences in  
accordance with claim 1 or 2 which consist of amino acid sequences coded  
with the nucleic acid sequences according to SEQ ID No. 1 and SEQ ID No.  
2, as functional variants thereof or a fragments thereof with at least 6 amino  
30 acids.
6. The use of the calpain-7-protease and zinc metalloprotease enzymes

in accordance with claim 1 for therapeutic purposes.

7. The use of the calpain-7-protease and zinc metalloprotease enzymes  
in accordance with claim 1 for purification purposes of proteinaceous  
5 contaminations.

8. The use of polypeptides in accordance with claim 5 for therapeutic  
purposes.

10 9. The use of polypeptides in accordance with claim 5 for purification  
purposes of proteinaceous contaminations.

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